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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	16

Application Number	10/710,753
Filing Date	July 30, 2004
First Named Inventor	Dinesh R. Patel
Art Unit	3672
Examiner Name	Harcourt, Brad
Attorney Docket Number	68.0505

ENCLOSURES *(Check all that apply)*

- ☑ Fee Transmittal Form
  - ☑ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☑ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):

postcard
PTO-2038

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	VAN SOMEREN, PC		
Signature	Robert A Van Someren		
Printed name	Robert A. Van Someren		
Date	August 14, 2007	Reg. No.	36,038

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

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Typed or printed name	Robert A. Van Someren	Date	August 14, 2007

PTO/SB/17 (07-07)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2007

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	500.00

Complete if Known	
Application Number	10/710,753
Filing Date	July 30, 2004
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METHOD OF PAYMENT (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
Application Type	Fee ($)	Small Entity Fee ($)	Fee ($)	Small Entity Fee ($)	Fee ($)	Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims		Fee ($)		Fee Paid ($)
_____	- 20 or HP =	_____	x	_____	=	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims		Fee ($)		Fee Paid ($)
_____	- 3 or HP =	_____	x	_____	=	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

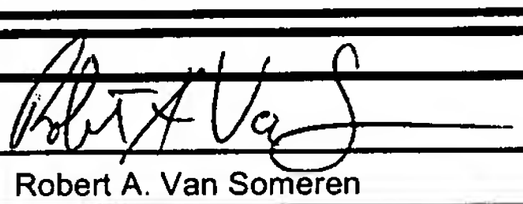
If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____ (round **up** to a whole number)	x	_____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Appeal Brief	500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 36,038	Telephone 281-373-4369
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Dinesh R. Patel	§	Group Art Unit: 3672
Serial No.: 10/710,753	§	Examiner: Harcourt, Brad
Filed: July 30, 2004	§	
For: Cross Flow Prevention System and Valve	§	Atty Docket: 68.0505

Assistant Commissioner
for Patents
Washington, D.C. 20231

CERTIFICATE OF MAILING
37 C.F.R. 1.8

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August 14, 2007 — Robert A. Van Someren
Date

Sir:

APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on June 14, 2007 and received by the Patent Office on June 20, 2007.

1. **REAL PARTY IN INTEREST**

The real party in interest is Schlumberger Technology Corporation, the Assignee of the above-referenced application by virtue of the Assignment recorded at reel 014940, frame 0009.

2. **RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellant's legal representative in this Appeal. Schlumberger Technology Corporation, the Assignee of the above-referenced application as evidenced by the documents listed above, will be directly affected by the Board's decision in the pending appeal.

3. **STATUS OF CLAIMS**

Claims 1-23 stand finally rejected by the Examiner as noted in the Office Action dated February 20, 2007. The rejection of claims 1-23 is appealed.

4. **STATUS OF AMENDMENTS**

The December 8, 2006 Amendment, submitted prior to the Examiner's Final Rejection mailed February 20, 2007, was entered by the Examiner.

5. **SUMMARY OF THE CLAIMED SUBJECT MATTER**

a.) Independent Claim 1

Independent claim 1 is directed to a system for preventing cross flow of fluid between formations 14, 16 that intersect a wellbore 10. (See page 2, lines 22-24, paragraph 0010). The flow of fluid from formation 14 up through wellbore 10 (or the flow of fluid down through wellbore 10 into formation 14) is controlled by a flow valve 20. The flow valve 20 can be hydraulically actuated via a hydraulic control line 21. (See page 3, lines 6-12, paragraph 0011). A cross-flow prevention valve 50 is used to selectively prevent undesired flow between formations 14 and 16. (See page 4, lines 21-23, paragraph 0016). The cross-flow prevention valve 50 is actuated with the same hydraulic control line 21 used to control flow valve 20. (See page 4, lines 24-26, paragraph 0016).

b.) Independent Claim 14

Independent claim 14 is directed to a system for preventing cross flow of fluid between formations 14, 16 that intersect a wellbore 10. (See page 2, lines 22-24, paragraph 0010). The system comprises a first multi-position flow valve 20 used to control the flow of fluid from formation 14 up through wellbore 10 (or the flow of fluid down through wellbore 10 into formation 14). The system also comprises a second multi-position flow valve 22 used to control

the flow of fluid from a next adjacent formation 16 up through wellbore 10 (or the flow of fluid down through wellbore 10 into formation 16). (See page 3, lines 6-12, paragraph 0011). A cross-flow prevention valve 50 is disposed between the first multi-position flow valve 20 and the second multi-position flow valve 22 to selectively prevent undesired flow between formations 14 and 16. (See page 4, lines 21-23, paragraph 0016, and Figure 1).

c.) Independent Claim 19

Independent claim 19 is directed to a method for preventing cross flow of fluid between formations 14, 16 that intersect a wellbore 10. (See page 2, lines 22-24, paragraph 0010). The method comprises controlling fluid flow from formation 14 up through wellbore 10 (or down through wellbore 10 into formation 14) by a flow valve 20. (See page 3, line 6-8, paragraph 0011). The method further comprises preventing flow between formations 14 and 16 with a cross-flow prevention valve 50. (See page 4, lines 21-23, paragraph 0016). The method also comprises actuating the cross-flow prevention valve 50 and the flow valve 20 with a single hydraulic control line 21. (See page 4, lines 24-26, paragraph 0016).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

a.) Whether claims 1-5, 7 and 19-23 are unpatentable under 35 U.S.C. § 102(b) as anticipated by the Williamson, Jr. et al. reference, U.S. Patent No: 6,668,936.

b.) Whether claims 6 and 8-18 are unpatentable under 35 U.S.C. § 103(a) as obvious over the Williamson Jr. et al. reference in view of the Murray reference, U.S. Patent No: 5,862,865.

7. **ARGUMENT**

a.) Rejection of claims 1-5, 7 and 19-23 as unpatentable under 35 U.S.C. § 102(b) as anticipated by the Williamson, Jr. et al. reference, U.S. Patent No: 6,668,936.

- Claims 1-5, 7 and 19-23

Independent claims 1, 19 and dependent claims 2-5, 7, 20-23 were improperly rejected as anticipated by the Williamson Jr. et al. reference. The reference fails to disclose elements of the subject claims.

In the Office Action dated February 20, 2007, the Williamson Jr. et al. reference is relied on as disclosing a flow valve and a cross-flow prevention valve both controlled by one hydraulic control line. In fact, a statement was made in the Office Action that the Williamson, Jr. et al. reference "discloses the usage of 'one or more control lines 34, or other types of flow paths' (col. 3, lines 32-33)." (See Office Action, page 4). The Examiner also argues against Applicant's position by stating the "applicant quotes a section of the specification, column 6, where multiple lines are used to control multiple valves, but that does not exclude the presence of other embodiments where one hydraulic line can be used." (See Office Action, page 4). However, Applicant respectfully submits the Williamson, Jr. et al. reference cannot be relied on as providing this asserted teaching. The Williamson Jr. et al. system relies on a complex, multi-line system and does not disclose control over a flow valve and a cross-flow prevention valve with one hydraulic control line. Additionally, the Williamson Jr. et al. reference completely fails to disclose or even suggest a cross-flow prevention valve. Accordingly, the rejection should be withdrawn.

The Williamson, Jr. et al. reference discloses a hydraulic control system used to control well tool assemblies. Multiple well tool assemblies 12, 14, 16 and 18 are connected along a tubular string 20 positioned in wellbore 22. In one embodiment, the well tool assemblies are

hydraulically operated to control fluid flow between wellbore 22 and corresponding formations or zones 24, 26, 28 and 30. The well tool assemblies are operated by control lines 36 that extend to the well tool assemblies from a control module 32. The control module 32 places "one or more of the control lines 34 in fluid communication with one or more lines 36". (See column 3, lines 29-40). Accordingly, multiple control lines 36 are used in conjunction with control module 32 to control operation of the well tool assemblies. With respect to the control lines 34 routed downhole, the Williamson, Jr. et al. reference describes the use of multiple control lines 34 to provide input to control module 32 rather than to control well tool assemblies. Furthermore, the reference completely fails to provide any suggestion regarding controlling both a flow valve and a cross-flow prevention valve.

The Williamson, Jr. et al. reference provides specific examples as to how control lines 34 are utilized. In one example, control module 32 is interconnected between lines 34 and lines 36 and operates in response to pressure in one or more of the lines 34. In this example, "pressure in one of the lines 34 may be increased to thereby provide fluid communication between another one of the lines 34 and one or more of the lines 36 to thereby operate one or more of the tool assemblies" (emphasis added). (See column 3, lines 41-46). In another example, the pressure differential between two of the lines 34 is used to cause control module 32 "to provide fluid communication between another one of the lines 34 and one or more of the lines 36." (See column 3, lines 47-50). In another example, a series of pressure differentials is applied to lines 34 to select certain one or more of the lines 36 for fluid communication "with certain one or more of the lines 34". (See column 3, lines 51-58). Throughout the disclosure and examples found in the Williamson, Jr. et al. reference, control module 32 and multiple control lines 36 are used to control the well tool assemblies, and there is no teaching or suggestion for using a single control line 34 to control both a flow valve and a cross-flow prevention valve. Accordingly, the rejection of these claims should be withdrawn.

Additionally, the Williamson, Jr. et al. reference only illustrates and describes well tool assemblies as positioned in corresponding formations. Each of the well tool assemblies 12, 14, 16, 18 is "configured for controlling fluid flow between the wellbore 22 and one of multiple

formations". (See column 3, lines 10-16). The Williamson Jr. et al. reference only suggests the use of flow control devices that are individually associated with corresponding formations or zones. There is absolutely no teaching related to use of a cross-flow prevention valve, as in the present claims. Accordingly, the Williamson, Jr. et al. reference again fails to support the present rejection under 35 USC 102(b).

By way of specific example, the Williamson, Jr. et al. reference does not disclose or suggest a flow valve controlling flow from one of the formations combined with a "cross-flow prevention valve selectively preventing flow between the formations" as recited in independent claim 1. Furthermore, the reference fails to disclose or suggest a flow valve "actuated with a hydraulic control line" and a "cross-flow prevention valve" also "actuated with the hydraulic control line" as further recited in independent claim 1. Similarly, the Williamson, Jr. et al. reference does not disclose or suggest controlling flow from one of the formations with the flow valve combined with "selectively preventing flow between the formations with a cross-flow prevention valve" as recited in independent claim 19. Furthermore, the reference fails to disclose or suggest "actuating the cross-flow prevention valve and the flow valve with a single hydraulic control line" as further recited in amended, independent claim 19. Accordingly, independent claims 1 and 19 are not anticipated by the cited reference, and the rejection should be withdrawn.

Claims 2-5, 7 and 20-23 ultimately depend from either independent claim 1 or independent claim 19. These dependent claims are patentable over the cited reference for the reasons provided above with respect to their corresponding independent claims as well as for the unique subject matter recited in each of the claims 2-5, 7 and 20-23.

b.) Rejection of claims 6 and 8-18 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Williamson Jr. et al. reference in view of the Murray reference, U.S. Patent No: 5,862,865.

- **Claims 6 and 8-18**

Claims 6 and 8-18 were improperly rejected as obvious over the Williamson Jr. et al. reference in view of the Murray reference. No *prima facie* case of obviousness has been established.

Claims 6 and 8-13 ultimately depend from independent claim 1 and are patentable over the cited references for the reasons provided above with respect to independent claim 1 as well as for the unique subject matter recited in these dependent claims. The Murray et al. reference provides no disclosure that would obviate the deficiencies of the Williamson, Jr. et al. reference as described above. The rejection of independent claim 14 along with its dependent claims 15-18 also is respectfully traversed.

The Murray et al. reference describes an insert assembly for use in a gas lift operation that has a tubing safety valve 16 with a flapper 18. (See column 2, lines 14-18). The insert assembly is useful when a well is converted to a gas lift operation and requires the use of valves, such as a tubing safety valve in combination with an annular-type safety valve. (See column 1, lines 54-58). However, the Murray et al. reference does not disclose first and second multi-position flow valves or a cross-flow prevention valve disposed therebetween. Accordingly, the reference fails to fill the deficiencies of disclosure in the Williamson, Jr. et al. reference as largely discussed above.

Specifically, neither reference discusses first and second multi-position flow valves positioned to control flow from adjacent formations in combination with a cross-flow prevention valve disposed therebetween to selectively prevent flow between the formations. By way of example, the cited references, whether taken alone or in combination, fail to disclose or suggest a "first multi-position flow valve controlling the flow from a first formation; a second multi-position flow valve controlling the flow from a next adjacent active formation", and a cross-flow prevention valve "disposed between the first multi-position flow valve and the second multi-position flow valve to selectively prevent flow between the first formation and the next adjacent active formation" as recited in independent claim 14. The Williamson, Jr. et al. reference and the

Murray et al. reference simply do not disclose this structure. Accordingly, no prima facie case of obviousness has been established, and the rejection of independent claim 14 should be withdrawn.

Claims 15-18 ultimately depend from independent claim 14. The rejection of these dependent claims should be withdrawn for the reasons provided above with respect to independent claim 14 and also because of the unique subject matter recited in each of the claims 15-18. No prima facie case of obviousness has been established with respect to any of the subject claims, and the rejection of claims 6 and 8-18 should be withdrawn.

In view of the above remarks, Applicant respectfully submits the Examiner has provided no supportable position or evidence that any of the claims 1-23 are anticipated under 35 U.S.C. § 102(b) or obvious under 35 U.S.C. § 103(a). Accordingly, Applicant respectfully requests that the Board find claims 1-23 patentable over the art of record, withdraw all outstanding rejections, and allow claims 1-23.

The Commissioner is hereby authorized to charge the requisite fee of $500.00 (filing a brief in support of a Notice of Appeal) to the credit card listed on the attached form PTO-2038. However, if the amount listed thereon is insufficient, or if the amount is unable to be charged to the credit card for any other reason, the Commissioner is authorized to charge Deposit Account No. 50-3054.

Respectfully submitted,

Date: August 14, 2007

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8. CLAIMS APPENDIX

1. A system for preventing cross-flow between at least two formations intersecting a wellbore, comprising:

a flow valve controlling the flow from one of the formations;

the flow valve actuated with a hydraulic control line;

a cross-flow prevention valve selectively preventing flow between the formations; and

the cross-flow prevention valve actuated with the hydraulic control line.

2. The system of claim 1, wherein the flow valve is a multi-position valve.

3. The system of claim 2, wherein the cross-flow prevention valve is actuated and the flow valve is shifted from one to another position with each pressure cycle in the hydraulic control line.

4. The system of claim 1, further comprising another flow valve controlling the flow from another of the formations.

5. The system of claim 4, wherein the another flow valve is actuated with the hydraulic control line.

6. The system of claim 1, wherein the flow valve is a sleeve valve.

7. The system of claim 1, wherein the wellbore comprises an injection wellbore.

8. The system of claim 1, wherein the cross-flow prevention valve comprises a flapper valve.

9. The system of claim 8, wherein:

the flapper valve comprises a mandrel housing a movable actuator and a flapper; and

the actuator is movable between a first position that forces the flapper to an open arrangement and a second position that enables the flapper to move to a closed arrangement.

10. The system of claim 9, wherein the flapper valve comprises a biasing mechanism that selectively biases the actuator between the first and second positions.

11. The system of claim 10, wherein the biasing mechanism biases the actuator to the first position when fluid in the hydraulic control line is below a certain pressure.

12. The system of claim 11, wherein the fluid in the hydraulic control line is above a certain pressure that overcomes the biasing mechanism to move the actuator to the second position.

13. The system of claim 12, wherein the flapper includes an internal biasing that pivots the flapper to a closed position when the actuator is in the second position.

14. A system for preventing cross-flow between at least two formations intersecting a wellbore, comprising:

a first multi-position flow valve controlling the flow from a first formation;

a second multi-position flow valve controlling the flow from a next adjacent active formation; and

a cross-flow prevention valve disposed between the first multi-position flow valve and the second multi-position flow valve to selectively prevent flow between the first formation and the next adjacent active formation.

15. The system of claim 14, wherein the cross-flow prevention valve comprises a flapper valve, and the flow valve and flapper valve are actuated with the same hydraulic control line.

16. The system of claim 15, wherein the flapper valve is actuated and the flow valve is shifted from one to another position with each pressure cycle in the hydraulic control line.

17. The system of claim 15, wherein the flapper valve is self-biased to a closed position when a hydraulic control line operatively connected to the flapper valve is pressurized below a certain pressure.

18. The system of claim 17, wherein the flapper valve is moved to an open position when the pressure in the hydraulic control line is above a certain pressure.

19. A method for preventing cross-flow between at least two formations intersecting a wellbore, comprising:

controlling the flow from one of the formations with a flow valve;

selectively preventing flow between the formations with a cross-flow prevention valve; and

actuating the cross-flow prevention valve and the flow valve with a single hydraulic control line.

20. The method of claim 19, wherein the flow valve comprises a multi-position valve and the controlling step comprises changing the positions of the multi-position flow valve.

21. The method of claim 20, wherein the actuating step comprises performing one pressure cycle in the single hydraulic control line.

22. The method of claim 20, wherein the cross-flow prevention valve comprises a flapper valve and the method further comprises biasing the flapper valve to a closed position when the single hydraulic control line is pressurized below a certain pressure.

23. The method of claim 22, further comprising moving the flapper valve to an open position when the single hydraulic control line is pressurized above a certain pressure.

9. EVIDENCE APPENDIX

Not Applicable

10. RELATED PROCEEDINGS APPENDIX

Not Applicable